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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/553,660

10/17/2005

Manabu Komatsu

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10/15/2008

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EXAMINER

GORDON, BRIAN R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

10/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/553,660	Applicant(s) KOMATSU ET AL.	
	Examiner Brian R. Gordon	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-13-06; 10-17-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 does not include a traditionally recognized transitional phrase (comprising, consisting of, etc.) as such "having" will be interpreted as comprising.

As to claim 1, it is unclear what structural limitation is intended by the phrase "prescribed positions are totals of integer multiples of existence quantity units defined for the respective chemical substances." What "totals"? Is the total respective to the volume, mass, weight, etc. What is meant by "inter multiples"? The entire phrase is unclear.

Claims 2-5 and 9-10 are directed to process/intended use. Process limitations and intended use are not further limiting of apparatus claims. How the chemicals are applied to the substrate and how one intends to analyze the substrate is not further limiting of the substrate itself.

As to claim 6, it is unclear what is meant by the "different in the existing ratios of chemical substance."

Claims 2-3 and 6 imply that a plurality of chemical substances are required. It should be noted that claim 1 only requires the presence of one chemical substance.

Claim 7 is directed to a Markush Group; as such claim 8 is only further limiting if one positively requires the specimen to be those specified in the claim. If the substance is any other substance in the group of claim 7 claim 8 would not be further limiting.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Becker et al. US 6,485,913.

Becker et al. discloses a solid support useful in an open system for maintaining a volume of a liquid at a predetermined volume can be constructed of any material having a surface, which can be flat or geometrically altered, for example, to include wells. The solid support is any known to those of skill in the art as matrix for performing synthetic reactions and assays. It can be fabricated from silicon, glass, silicon-coated materials, metal, a composite, a polymeric material such as a plastic, a polymer-grafted material, such as a metal-grafted polymer, or other material as disclosed herein. This material can be further functionalized, as necessary, for example, chemically, to enhance or permit linkage of molecules or other particles, such as cells or cell membranes or viral envelopes or other such biological materials, of interest. The surface of a support can be modified, such as by radiation grafting of a suitable polymer on the surface and derivatization thereof to render it suitable for binding capturing a molecule or particle, such as a cell. (column 15, lines 23-40).

A liquid dispensing system can include a single fluid transmitting vesicle or multiple vesicles, which can be manipulated independently or together in parallel. A fluid

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transmitting vesicle can be a solid vesicle, to which the liquid can adsorb and be transferred, or can have a bore, through which the liquid is transferred. Thus, a fluid transmitting vesicle can be a pipet, particularly a micropipet, which contains a chamber for holding or transferring the liquid and an end from which the liquid can be dispensed to a target site; a pin tool, which can have a bore, or can be solid vesicle, which, when dipped into a chamber holding a liquid, adsorbs a volume of the liquid, which then can be transferred to a target site; or a liquid sonicating, vaporizing or ink jet device, which contains a chamber for holding the liquid, and an end from which the liquid is dispensed in droplets, the volume and rate of dispensing of which can be adjusted as desired.(column 21, lines 33-59).

A biopolymer sequencing reaction such as the Maxam-Gilbert method or Sanger-Coulson method conveniently can be performed, for example, on a microchip, in which a number of reactions, including the four (or five) base specific reaction, can be performed in parallel on one or more polynucleotides, or a single base reaction can be performed on a number of different polynucleotide sequences. Such methods of polynucleotide sequencing result in the production of nested fragments of the polynucleotide, which can be detected using various methods, particularly mass spectrometry, including matrix-assisted laser desorption/ionization time-of -flight (MALDI-TOF) mass spectrometry or capillary electrophoresis. (column 29, lines 26-33 and column 23, lines 22-25).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chari; Krishnan et al.; Johnston; Raymond P. et al.; McGrew;

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Stephen P et al.; Lopez; Gabriel et al.; Webb, Peter G.; Caren, Michael P. et al.; Carlson, Robert E.; Carlson, Robert E.; He, Lin et al.; Tisone, Thomas C. et al.; Mutz, Mitchell W. et al.; He; Lin et al.; Quake; Stephen R. et al.; O'Keefe; Matthew et al.; Little; Daniel P. et al.; Van Dam; Michael et al.; Morozov; Victor et al.; and Little; Daniel P. et al. disclose arrays and methods of creating such arrays.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian R Gordon/
Primary Examiner
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